



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7**

11201 Renner Boulevard
Lenexa, Kansas 66219

JUN 18 2014

CERTIFIED MAIL

RETURN RECEIPT REQUESTED

Article Number: 7013 3020 0001 1645 6652

IN THE MATTER OF:

**Frontier El Dorado Refining LLC
1401 Douglas Road
El Dorado, Kansas 67042**

ATTENTION:

Skipp Kistler - Vice President and Refinery Manager

Request to Provide Information Pursuant to the Clean Air Act

The United States Environmental Protection Agency (EPA) requires Frontier El Dorado Refining LLC (FEDR or you) to submit certain information about your facility at 1401 Douglas Road, El Dorado, Kansas. Appendix B specifies the information that you must submit and a schedule for that submittal.

We are issuing this information request under section 114(a) of the Clean Air Act (the Act), 42 U.S.C. § 7414(a) which authorizes the Administrator of EPA to require the submission of information. The Administrator has delegated this authority to Becky Weber, Director of the Air and Waste Management Division, EPA Region 7.

FEDR owns and operates emission sources at its El Dorado Refining facility. We are requesting this information to determine whether your emission sources are complying with the Clean Air Act.

You must send all requested information to the following:

Bill Peterson
Air Permitting and Compliance Branch
U.S. EPA Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

Terri Dykes, Attorney-Advisor
USEPA - Air Enforcement Division
Mail Code 2242-A
1200 Pennsylvania Ave., NW
Washington, DC 20002



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Under 40 C.F.R. Part 2, Subpart B, you may assert a claim of business confidentiality for any portion of the submitted information. You must specify the page, paragraph, and sentence when identifying the information subject to your claim. Appendix A specifies the assertion and substantiation requirements for business confidentiality claims.

HQS 61 MUL

You must submit all requested information under an authorized signature with the following certification:

I certify under penalty of law that I have examined and am familiar with the enclosed information and Documents, including all attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are, to the best of my knowledge and belief, true and complete. I am aware that there are significant penalties for knowingly submitting false statements and information, including the possibility of fines or imprisonment pursuant to section 113(c)(2) of the Act, and 18 U.S.C. §§ 1001 and 1341.

We may use any information submitted in response to this request in an administrative, civil, or criminal action.

This request is not subject to the Paperwork Reduction Act, 44 U.S.C. § 3501 et seq., because it seeks collection of information from specific individuals or entities as part of an administrative action or investigation. To the extent that you respond with non-electronic media, to aid in our electronic record keeping efforts, please provide such Information and Documents without staples. Paper clips, binder clips, and 3-ring binders are acceptable.

Failure to comply fully with this request for information may subject FEDR to an enforcement action under section 113 of the Act, 42 U.S.C. § 7413.

You should direct any questions about this request for information to Julie L. Murray at (913) 551-7448 or Bill Peterson at (913) 551-7881.

6/16/14

Date

Becky Weber

Becky Weber

Director

Air and Waste Management Division

APPENDIX A

Confidential Business Information (CBI)

You may assert a business confidentiality claim covering all or part of the information you provide in response to this information request for any business information entitled to confidential treatment under Section 114(c) of the Clean Air Act (the Act), 42 U.S.C. § 7414, and 40 C.F.R. Part 2, subpart B. Under Section 114(c) of the Act, you are entitled to confidential treatment of information that would divulge methods or processes entitled to protection as trade secrets. Under 40 C.F.R. Part 2, subpart B, business confidentiality means “the concept of trade secrecy and other related legal concepts which give (or may give) a business the right to preserve the confidentiality of business information and to limit its use or disclosure by others in order that the business may obtain or retain business advantages it derives from its rights in the information.” See 40 C.F.R. § 2.201(e).

Information covered by a claim of business confidentiality will be disclosed by EPA only to the extent, and by means of the procedures, set forth in Section 114(c) of the Act and 40 C.F.R. Part 2, subpart B. EPA will construe your failure to furnish a business confidentiality claim in accordance with the requirements of 40 C.F.R. § 2.203(b) with your response to this information request as a waiver of that claim, and the information may be made available to the public without further notice to you.

To assert a business confidentiality claim, you must place on (or attach to) all information you desire to assert as business confidential either a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as “trade secret,” “proprietary,” or “company confidential” at the time you submit your response to this information request. See, 40 C.F.R. § 2.203(b). Allegedly confidential portions of otherwise non-confidential Documents should be clearly identified, and may be submitted separately to facilitate identification and handling by EPA. You should indicate if you desire confidential treatment only until a certain date or until the occurrence of a certain event.

The criteria EPA will use in determining whether material you claim as business confidential is entitled to confidential treatment are set forth at 40 C.F.R. §§ 2.208 and 2.301. These regulations provide, among other things, that you must satisfactorily show that: (1) the information is within the scope of business confidentiality as defined at 40 C.F.R. § 2.201(e), (2) that you have taken reasonable measures to protect the confidentiality of the information and that you intend to continue to do so, (3) the information is not and has not been reasonably obtainable by legitimate means without your consent, and (4) the disclosure of the information is likely to cause substantial harm to your business’s competitive edge. See 40 C.F.R. § 2.208 (a)-(d). Emission data, as defined at 40 C.F.R. § 2.301(a)(2), is expressly not entitled to confidential treatment under 40 C.F.R. Part 2, subpart B. See 42 U.S.C. § 7414(c); 40 C.F.R. § 2.301(e).

If you assert a claim of business confidentiality in connection with information and Documents forwarded in response to this request for information, in accordance with 40 C.F.R. § 2.204(e)(4), EPA requests that you answer the following questions with respect to any information or Document for which you assert a claim of business confidentiality:

1. What specific portions of the information are alleged to be entitled to confidential treatment?
Specify by page, paragraph, and sentence when identifying the information subject to your claim.

2. For what period of time do you request that the information be maintained as confidential, e.g., until a certain date, until the occurrence of a specified event, or permanently? If the occurrence of a specific event will eliminate the need for confidentiality, specify that event. Additionally, explain why the information should be protected for the time period you've specified.
3. What measures have you taken to protect the information claimed as confidential from undesired disclosure? Have you disclosed the information to anyone other than a governmental body or someone who is bound by an agreement not to disclose the information further? If so, why should the information still be considered confidential?
4. Is the information contained in any publicly available material such as the Internet, publicly available databases, promotional publications, annual reports, or articles? Is there any means by which a member of the public could obtain access to the information? Is the information of a kind that you would customarily not release to the public?
5. Has any governmental body made a determination as to the confidentiality of the information? If so, please attach a copy of the determination.
6. For each category of information claimed as confidential, explain with specificity whether disclosure of the information is likely to result in substantial harm to your competitive position. Explain the specific nature of those harmful effects, why they should be viewed as substantial, and the causal relationship between disclosure and such harmful effects. How could your competitors make use of this information to your detriment?
7. Is there any other explanation you deem relevant to EPA's determination of your business confidentiality claim that is not covered in the preceding questions? If so, you may provide such additional explanation.
8. Do not submit information you consider to be business confidential by email, because this may compromise the security of the information.

You must furnish comments to the above questions concurrent with your response to this information request if you have claimed any information as business confidential. See 40 C.F.R. § 2.204(e)(2). Pursuant to 40 C.F.R. § 2.205(b)(2), you may request an extension of this deadline. EPA will construe your failure to furnish timely comments as a waiver of your confidentiality claim, consistent with 40 C.F.R. § 2.204(e)(1). Please submit your comments to the following:

Julie L. Murray
Assistant Regional Counsel
U.S. EPA Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

Pursuant to 40 C.F.R. § 2.205(c), you are hereby advised that information you submit as part of your comments may be regarded by EPA as entitled to confidential treatment if, when it is received by EPA, it is marked in accordance with 40 C.F.R. § 2.203(b). As required by 40 C.F.R. § 2.204(e)(6), you may assert a business confidentiality claim covering all or part of your response to these questions, as provided in 40 C.F.R. § 2.203(b). Information covered by such a claim will be disclosed by EPA only to the extent, and by means of the procedures, set forth in Section 114(c) of the Clean Air Act (the Act) and 40 C.F.R. Part 2. EPA will construe the failure to furnish a confidentiality claim with your comments as a waiver of that claim, and the information may be made available to the public without further notice to you.

APPENDIX B

Request to Provide Information

I. INSTRUCTIONS

These requests shall be construed to require You to produce all responsive Information and Documents in your possession, custody and/or control. If information or Documents not known or not available to you as of the date of submission of a response to this Request should later become known or available to you, you must supplement your response to EPA. Moreover, should you find, at any time after the submission of your response that any portion of the submitted information is false or misrepresents the truth, you must notify EPA of this fact as soon as possible and provide EPA with a corrected response. There are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Pursuant to the Clean Air Act, FEDR must provide the following information and documents within thirty (30) days of its receipt of this request. EPA requests that the non-narrative information be provided in editable form, in spreadsheet format, preferably in Excel and that narrative Documents be provided in searchable pdf format or in Word. For each Document produced in response to this Information Request, indicate on the Document, or in some other reasonable manner, the number of the Question to which it responds. Please submit all information for each question in a logically titled and sequenced manner.

If the information requested was previously submitted to EPA in response to another Section 114 Request, FEDR may either resubmit the information or may for each specific request, identify the date and addressee of the prior submittal and identify the location of the specific information within the prior submittal.

Should you withhold any Information or Document responsive to a Request under a claim of privilege, identify the Information or Document withheld and the privilege(s) asserted and describe in full the basis for your assertion of the privilege(s).

II. DEFINITIONS

“Ambient Air” or “air” shall mean that portion of the atmosphere, external to buildings, to which persons have access.

“Assist Air” shall mean all air that intentionally is introduced into an air-assisted Flare to assist in combustion.

"Document" and "Documents" shall mean any object that records, stores, or presents information, and includes writings of any kind, formal or informal, whether or not wholly or partially in handwriting, including documentation solely in electronic form, including by way of illustration and not by way of limitation, any invoice, manifest, bill of lading, receipt, endorsement, check, bank draft, canceled check, deposit slip, withdrawal slip, order, correspondence, record book, minutes, memorandum of telephone and other conversations, including meetings, agreements and the like, diary, calendar, desk pad, scrapbook, notebook, bulletin, circular, form, pamphlet, statement, journal, postcard, letter, telegram,

telex, report, notice, message, analysis, comparison, graph, chart, interoffice or intra office communications, photo stat or other copy of any documents, microfilm or other film record, any photograph, sound recording on any type of device, any punch card, disc or disc pack; any tape or other type of memory generally associated with computers and data processing (if in computer format or memory, each such document shall be provided in translation to a form useable and readable by EPA, with all necessary documentation and support); and (a) every copy of each document which is not an exact duplicate of a document which is produced, (b) every copy which has any writing, figure or notation, annotation or the like on it, (c) drafts, (d) attachments to or enclosures with any document, and (e) every document referred to in any other document.

“Facility” means Frontier El Dorado Refining LLC or FEDR.

“Company” includes any officer, director, agent, or employee of Frontier El Dorado Refining LLC, including any merged, consolidated, or acquired predecessor or parent, subsidiary, division, or affiliate thereof.

“Flare” means an open combustion device that uses an uncontrolled volume of ambient air to burn gases. A Flare may be partially enclosed (such as an enclosed ground flare) or equipped with a radiant heat shield (with or without a refractory lining), but is not equipped with a system to limit the volume of combustion air. A Flare may use auxiliary fuel. A Flare may be elevated or at ground level.

“Information” means any written, recorded, or graphic matter of any nature whatsoever, regardless of how recorded, and whether original or copy, including but not limited to, the following: memoranda, reports, expense reports, books, manuals, instructions, financial reports, working papers, records, notes, letters, notices, confirmations, telegrams, receipts, appraisals, pamphlets, magazines, newspapers, prospectuses, interoffice and intra-office communications, electronic mail (“email”), instant messages, calendars, contracts, cables, notations of any type of conversation, telephone call, meeting, or other communication, bulletins, printed matter, computer printouts, invoices, transcripts, diaries, analyses, returns, summaries, minutes, bills, accounts, estimates, projections, comparisons, messages, correspondence, press releases, circulars, financial statements, reviews, opinions, offers, studies and investigations, questionnaires and surveys, power point presentations, spreadsheets, and work sheets. The term “information” includes all drafts, preliminary versions, alterations, modifications, revisions, changes, and amendments to the foregoing, as well as any attachments or appendices thereto. The term “information” also means any graphic or oral records or representations of any kind (including, without limitation, photographs, charts, graphs, voice mails, microfiche, microfilm, videotapes, recordings, and motion pictures), electronic and mechanical records or representations of any kind (including, without limitation, tapes, cassettes, disks, computer server files, computer hard drive files, CDs, DVDs, back up tape, memory sticks, recordings, and removable computer media such as thumb drives, flash drives, memory cards, and external hard drives), and other written, printed, typed, or other graphic or recorded matter of any kind or nature, however produced or reproduced, and whether preserved in writing, film, tape, electronic format, disk, videotape or otherwise. Information bearing any notation not part of the original text is considered to be separate information. A draft or non-identical copy is separate information within the meaning of this term.

“Person” or “Persons” shall have the meaning set forth in Section 302(e) of the Act, 42 U.S.C. § 7602 (e), and includes an individual, corporation, partnership, association, State, municipality, political subdivision of a State, and any agency, department, or instrumentality of the United States and any officer, agent or employee thereof.

“Pilot Gas” shall mean all gas introduced through the pilot tip(s) of a Flare to maintain a flame.

“Purge Gas” shall mean the minimum amount of gas introduced between a Flare header’s water seal and the Flare tip to prevent oxygen infiltration (backflow) into the Flare tip. Purge Gas is typically introduced at the base of the Flare. For a Flare with no water seal, the function of Purge Gas is performed by Sweep Gas, and therefore, by definition, such a Flare has no Purge Gas, although Sweep Gas may be introduced at different locations, including at the base of the Flare.

“Standard Conditions” shall mean a temperature of 293 K (68F) and a pressure of 101.3 kilopascals (29.92 in Hg).

“Supplemental Gas” shall mean all gas introduced to a Flare to raise the heating value of Waste Gas.

“Sweep Gas” shall mean: For a Flare with a Water Seal: The minimum amount of gas introduced into a Flare header in order to: (a) prevent oxygen buildup, corrosion, and/or freezing in the Flare header; and (b) maintain a safe flow of gas through the Flare header, including a higher flow during hot taps. Sweep Gas in these Flares is introduced prior to and is intended to be recovered by the Flare Gas Recovery System; and For a Flare without a Water Seal: The minimum amount of gas introduced into a Flare header in order to: (a) prevent oxygen buildup, corrosion, and/or freezing in the Flare header; (b) maintain a safe flow of gas through the Flare header, including a higher flow during hot taps; and (c) prevent oxygen infiltration (backflow) into the Flare tip.

“Vent Gas” shall mean the mixture of all gases found just prior to the Flare tip. This gas includes all Waste Gas, Sweep Gas, Purge Gas, and Supplemental Gas, but does not include Pilot Gas, steam, or Assist Air.

“Waste Gas” shall mean the mixture of all gases from facility operations that is directed to a Flare for the purpose of disposing of the gas. “Waste Gas” does not include Sweep Gas, Purge Gas, Supplemental Gas, Pilot Gas, steam, or Assist Air.

“You” or “Yours”, as used in each of the questions set forth in Section III of this Information Request, refers to, and shall mean, the company or corporation with which each addressee of this Section 114 letter is affiliated including its subsidiaries, division, affiliates, predecessors, successors, assigns, and its former and present officers, directors, agents, employees, representatives, attorneys, consultants, accountants, and all other persons acting on its behalf.

All terms used in this Request will have their ordinary meaning unless such terms are defined in the CAA, 42 U.S.C. § 7401 et seq., and the implementing regulations.

Words in the masculine shall be construed in the feminine, and vice versa, and words in the singular shall be construed in the plural, and vice versa, where appropriate in the context of a particular question or questions.

III. QUESTIONS

All requests seek Information and Documents regarding all devices at the Facility meeting the definition of "Flare." If any Flares have been taken out of service or added into service during the time period specified in the request below, provide the information for the time period the Flare was in service.

1. For each Flare, for each hour of each day from January 1, 2009, through May 31, 2014, provide the measured, calculated, or estimated Vent Gas (i.e., the mixture of Waste Gas, Sweep Gas, Purge Gas, and/or Supplemental Gas) mass and volumetric flow rates in pounds per hour and wet standard cubic feet per minute that was routed to each Flare. If Vent Gas flow is not measured directly, use the best method(s) available to estimate or calculate the requested information on an hourly basis, which would include but not be limited to, the use of pressure measurements. Provide a narrative explanation and example calculations describing how you arrived at your response. If Vent Gas flow was not measured or cannot be calculated or estimated, (e.g., lack of equipment or equipment malfunction and/or maintenance at a Flare) provide an explanation of why Vent Gas flow is not measured (or if it was, why no data is available), and why you cannot calculate or estimate Vent Gas Flow.
2. For each Flare, for each hour required in response to Question 1, provide the hourly average concentration of each constituent (including hydrogen sulfide) in the Vent Gas vented to each Flare, with their respective molecular weights and net Btu/scf values. If the constituents in the Vent Gas were not measured directly, use the best method(s) available to estimate or calculate the requested information on an hourly basis. Such methods of estimation/calculation would include, but would not be limited to, the use of calculations from an online, intermittent, or continuous gas chromatograph (whether at the Flare or upstream of the Flare), one-time or periodic samples/analysis of gas constituents flowing to the Flare (whether at the Flare or upstream of the Flare), and/or process knowledge. Provide a narrative explanation and example calculations describing how you arrived at your response.
3. Provide a copy of the results of every measurement undertaken of the concentration of constituents of Vent Gas sent to any Flare from January 1, 2009, through May 31, 2014.
4. For each Flare, for each hour required in response to Question 1, provide the hourly average net heating value, in BTU/scf, of the Vent Gas vented to each Flare. If the net heating value was not measured/calculated, use the best means available to estimate/calculate the requested information on an hourly basis. Such methods of estimation/calculation would include, but would not be limited to, the use of calculations from an online, intermittent, or continuous gas chromatograph (whether at the Flare or upstream of the Flare), one-time or periodic samples/analysis of the Vent Gas flowing to the Flare (whether at the Flare or upstream of the Flare), and/or process knowledge. Provide a narrative explanation and example calculations describing how you arrived at your response.
5. For each Flare, for each hour required in response to Question 1, provide the hourly average rate at which steam and/or Assist Air was being added to each Flare, in pounds per hour for steam and/or scf/hour for Assist Air, at all locations on the Flare (i.e., the sum of seal, upper, lower, winterizing, etc.) during each Venting Period. If the steam and/or Assist Air flow was not

measured, use the best means available to estimate it on an hourly basis. Such methods of estimation/calculation would include, but would not be limited to, estimating flow from pressure measurements or estimating steam flow from valve position data. Provide a narrative explanation and example calculations, if appropriate, describing how you arrived at your response.

6. For each Flare, for each hour required in response to Question 1, provide the hourly average steam-to-Vent-Gas or Assist Air-to-Vent-Gas ratio (pound of steam/pound of Vent Gas or scf of Assist Air/pound of Vent Gas) for each Flare. Provide a narrative explanation and example calculations, if appropriate, describing how you arrived at your response.
7. For each Flare, provide the minimum steam or Assist Air addition rate, in pounds/hour for steam and/or scf/hour for Assist Air, at all locations on the Flare (i.e., the sum of seal, upper, lower, winterizing, etc.). To the extent that the minimum steam or Assist Air addition rate changes on a seasonal basis, state the minimum rate for each season and the time periods during which each season's minimum rate applies.
8. Provide copies of any and all Information and Documents that prescribe or recommend the amount of steam or Assist Air to be added to each Flare. Identify in your narrative response the location in each Document(s) that refers to the maximum steam or Assist Air rate; the minimum steam or Assist Air rate; the steam or Assist Air addition rate associated with particular venting scenarios; any general steam-to-Vent-Gas ratios, steam-to-specific-organic-gas ratios, Assist-Air-to-Vent-Gas ratios, or Assist-Air-to specific-organic-gas ratios; or any other reference to steam or Assist Air addition.
9. For each Flare, provide the date of installation, the manufacturer, and the model number.
10. For each Flare, provide copies of all manuals and/or operating instructions that were provided by the Flare manufacturer or vendor at any time. If in response to this Request you fail to produce such Information and/or Documents for a Flare, state whether you never received any such Information and/or Documents or whether the Documents were lost or discarded.
11. Describe in detail any research or studies conducted or reviewed by Facility personnel or at the direction of Facility personnel regarding the operation of Flares, including, but not limited to research or studies relating to steam and/or Assist Air addition to Flares.
12. Provide copies of any and all Documents in your possession, custody, or control acquired or generated as the result of the research or studies that are the subject of Question 11.
13. Provide a list of all Facility personnel, since January 1, 2009, charged with monitoring and/or adjusting the flow of steam, Assist Air, and/or Supplemental Gas to the each Flare.
14. Provide a list of all individuals who instructed the Facility personnel named in response to Question 13 on how to monitor and/or change the flow of steam, Assist Air, and/or Supplemental Gas to each Flare for the purpose of avoiding smoking and/or to achieve combustion/destruction of organic compounds in the Waste Gas.

15. In addition to the Documents sought in Question 10, describe in detail how each Flare operator is instructed on the level of steam, Assist Air and/or Supplemental Gas to be added to the Flares. Include the specifics of such instructions.
16. For each Flare, estimate the average number of minutes per hour that the Facility personnel in charge of operating the each Flare spends on each of the following tasks: 1) visually monitoring the status of the Flare flame; 2) monitoring the level of steam and/or Assist Air being sent to the Flare; 3) monitoring the level of Supplemental Gas being sent to the Flare. If the requested information is not recorded, please estimate the requested values through interviews with your operators or by providing them with a questionnaire.
17. For each Flare, state or estimate the percentage of time for each hour required in response to Question 1 that there was orange/yellow flame above the Flare tip and the percentage of time that there was no visible flame.
18. For each Flare, state whether the Flare is configured to receive gases/vapors from one or more pressure relief device(s), which is a safety device used to prevent operating pressures from exceeding the maximum allowable working pressure of the process equipment.
19. For each Flare, state with specificity which, if any, federal and/or state regulations regulate/apply to each Flare. If any Flare is listed in a permit issued under federal and/or state regulations, provide an electronic copy, preferably in pdf, of each currently effective permit.
20. For each Flare, state whether the Flare and its associated closed vent system is used as the method of compliance with any federal regulation, including without limitation, the New Sources Performance Standards found at 40 C.F.R. Part 60, the National Emission Standards for Hazardous Air Pollutants found at 40 C.F.R. Part 61, and the National Emission Standards for Hazardous Air Pollutants for Source Categories found at 40 C.F.R. Part 63, (specifically including without limitation any leak detection and repair (LDAR) provisions promulgated under these Parts such as 40 C.F.R. § 60.482-4(c), or 40 C.F.R. § 63.165(c)). In each such case, identify the process unit or equipment that is/are the “affected facility” under the applicable Part and the specific Subpart that applies to the “affected facility.”
21. Provide copies of Title V permit annual or semi-annual compliance certifications submitted to a local agency, State, and/or EPA for the Facility since April 1, 2009.
22. Provide a diagram of each flare system at the Facility that shows the locations of each pressure, flow, net heating value, molecular weight or constituent concentration measurement, knockout drum, water seal, purge gas, sweep gas, and supplemental gas injection point. In addition, for each flare, provide a list of all gas streams that are routed to the flare on a continuous or intermittent basis. In this list, include, at a minimum, the actual volume of each stream that is burned in the flare.
23. Provide a copy of all written correspondence to the Kansas Department of Health and Environment (KDHE) and/or to the local agency, submitted pursuant to K.A.R. 28-19-11 from January 1, 2009, through May 31, 2014.

24. Provide a narrative explanation describing the process of reestablishing the water seal on the Main Flare and provide an estimate on the amount of time the process would take to complete.
25. For each Flare, provide the unobstructed, free cross sectional area of the Flare tip (in units of square feet). If the unobstructed, free cross sectional area of the Flare tip changed between January 1, 2009 and May 31, 2014, (i.e. was replaced, or physically modified), provide the dates of the change(s) and the corresponding cross sectional area(s).
26. For each Flare, for each hour required in response to Question 1, provide the hourly exit velocity of the Vent Gas by dividing the hourly volumetric flow rates (in units of wet standard cubic feet per minute) by the corresponding unobstructed, free cross sectional area of the flare tip required in response to Question 25.
27. Provide the minimum design feed rate to the FCCU.
28. Provide a simplified process flow diagram of the Fluid Catalytic Cracking Unit, the corresponding FCCU gas plant, the Amine sweetening unit, and the sulfur recovery plant.
29. Provide a P&ID diagram of the Fluid Catalytic Cracking Unit, the corresponding FCCU gas plant and amine sweetening unit, and the sulfur recovery plant. The P&ID diagram shall depict, at a minimum, the following items:
 - a. FCCU regenerator, reactor, main fractionator and overhead receiver;
 - b. Wet gas compressor (J-160);
 - c. Primary and Secondary absorbers;
 - d. Debutanizer unit;
 - e. Depropanizer unit;
 - f. FCCU amine unit contact tower, lean amine unit pump (J-0169), amine treaters (AU-1, AU-2, AU-3);
 - g. Sulfur recovery units, the tail gas treating unit(s), bypass lines (if any) from the sulfur recovery units outlets and/or tail gas treating unit(s) outlet(s) to the flare gas header, the SRP incinerator, and flow meters (if any) that measure the flow to/out the SRP incinerator.
30. State whether or not a bypass line exists that would allow the following outlet streams to be routed to the flare header.
 - a. SRU2 outlet to the flare gas header;
 - b. SRU3 outlet to the flare gas header;
 - c. Tail Gas Treating Unit (TGTU) outlet to the flare gas header.
31. For each hour of the day from August 1, 2010 through December 31, 2010, indicate the hours when the water seal on each Flare was breached.
32. For each hour of the day, from August 1, 2010 through September 30, 2010, provide the feed rate to the Fluid Catalytic Cracking Unit (FCCU) reactor riser (L-01109).

33. For each hour of the day, from September 1, 2010 through September 30, 2010, provide the magnitude (1-hour average) of the pressure loss (DP) across the Filtering Module (PDI01558) of the wet gas scrubber on the FCCU exhaust stack and indicate the hours when the pressure loss was less than 5.0 inches of water column.
34. For each hour of the day, from September 1, 2010 through September 30, 2010, provide the magnitude (1-hour average) of the Filtering Module recycle pump discharge pressure (PT01473) of the wet gas scrubber on the FCCU exhaust stack and indicate the hours when the pump discharge pressure was less than 103 psig.
35. For each hour of the day from September 1, 2010, through September 30, 2010, indicate the hours when the wet gas scrubber on the FCCU was in startup, shut down or malfunction mode.
36. From September 1, 2010, through September 30, 2010, provide a list and indicate the time periods when any of the refinery process units were in the process of starting up, shutting down, or experiencing a malfunction and indicate the time periods that the units were sending off gas to the refinery flare header.
37. For each hour of the day from April 1, 2013 through May 31, 2013, indicate the hours when the water seal on each Flare was breached.
38. For each hour of the day, from April 1, 2013 through May 31, 2013, provide the feed rate to the Fluid Catalytic Cracking Unit (FCCU) reactor riser (L-01109).
39. For each hour of the day, from April 1, 2013 through May 31, 2013, provide the magnitude (1-hour average) of the pressure loss (DP) across the Filtering Module (PDI01558) of the wet gas scrubber on the FCCU exhaust stack and indicate the hours when the pressure loss was less than 5.0 inches of water column.
40. For each hour of the day, from April 1, 2013 through May 31, 2013, provide the magnitude (1-hour average) of the Filtering Module recycle pump discharge pressure (PT01473) of the wet gas scrubber on the FCCU exhaust stack and indicate the hours when the pump discharge pressure was less than 103 psig.
41. For each hour of the day from April 28, 2013 through May 21, 2013, indicate the hours when the wet gas scrubber on the FCCU was in startup, shut down or malfunction mode.
42. From April 28, 2013, through May 21, 2013, provide a list and indicate the time periods when any of the refinery process units were in the process of starting up, shutting down, or experiencing a malfunction and indicate the time periods that the units were sending off gas to the refinery flare header.
43. For each hour of the day from April 1, 2014 through April 30, 2014, indicate the hours when the water seal on each Flare was breached.
44. For each hour of the day, from April 1, 2014 through April 30, 2014, provide the feed rate to the Fluid Catalytic Cracking Unit (FCCU) reactor riser (L-01109).

45. For each hour of the day, from April 1, 2014 through April 30, 2014, provide the magnitude (1-hour average) of the pressure loss (DP) across the Filtering Module (PDI01558) of the wet gas scrubber on the FCCU exhaust stack and indicate the hours when the pressure loss was less than 5.0 inches of water column.
46. For each hour of the day, from April 1, 2014 through April 30, 2014, provide the magnitude (1-hour average) of the Filtering Module recycle pump discharge pressure (PT01473) of the wet gas scrubber on the FCCU exhaust stack and indicate the hours when the pump discharge pressure was less than 103 psig.
47. For each hour of the day from April 1, 2014 through April 30, 2014, indicate the hours when the wet gas scrubber on the FCCU was in startup, shut down or malfunction mode.
48. From April 1, 2014 through April 30, 2014, provide a list and indicate the time periods when any of the refinery process units were in the process of starting up, shutting down, or experiencing a malfunction and indicate the time periods that the units were sending off gas to the refinery flare header.
49. Provide, in electronic format (preferably in Excel), the FCCU Continuous Emission Monitoring (CEMs) data on a daily average basis for SO₂ concentration data in units of parts per million by volume, dry basis (ppmvd), corrected to zero percent oxygen from January 1, 2010 until May 31, 2014. The SO₂ concentration data shall include 7-day rolling averages and 365-day rolling averages. Indicate periods of startup, shut down, or malfunction of the FCCU or malfunction of the wet gas scrubber.
50. Provide, in electronic format (preferably in Excel), the FCCU Continuous Emission Monitoring (CEMs) data on a daily average basis for NO_x concentration data in units of ppmvd, corrected to zero percent oxygen from January 1, 2010 until May 31, 2014. The NO_x concentration data shall include 7-day rolling averages and 365-day rolling averages. Indicate periods of malfunction of the FCCU or malfunction of the wet gas scrubber.
51. Provide, in electronic format (preferably in Excel), the FCCU Continuous Emission Monitoring (CEMs) data on a daily average basis for CO concentration data in units of ppmvd, corrected to zero percent oxygen from January 1, 2010 until May 31, 2014. The CO concentration data shall include 365-day rolling averages.
52. Provide, in electronic format (preferably in Excel), the FCCU Continuous Emission Monitoring (CEMs) data on a daily average basis for oxygen (O₂) concentration data in units of percent (%), from January 1, 2010 until May 31, 2014.
53. Provide, in electronic format (preferably in Excel), the refinery fuel gas header Continuous Emission Monitoring (CEMs) data of the hydrogen sulfide concentration (dry basis) in the fuel gas before being burned in any fuel gas combustion device, on a one-hour average basis, from August 1, 2010 until December 31, 2010. The hydrogen sulfide concentration data shall also include 3-hour rolling averages.

54. Provide, in electronic format (preferably in Excel), the refinery fuel gas header Continuous Emission Monitoring (CEMs) data of the hydrogen sulfide concentration (dry basis) in the fuel gas before being burned in any fuel gas combustion device, on a one-hour average basis, from April 1, 2013 until June 30, 2013. The hydrogen sulfide concentration data shall also include 3-hour rolling averages.
55. Provide, in electronic format (preferably in Excel), the refinery fuel gas header Continuous Emission Monitoring (CEMs) data of the hydrogen sulfide concentration (dry basis) in the fuel gas before being burned in any fuel gas combustion device, on a one-hour average basis, from April 1, 2014 until May 31, 2014. The hydrogen sulfide concentration data shall also include 3-hour rolling averages.
56. Provide, in electronic format (preferably in Excel), the sulfur recovery plant incinerator stack Continuous Emission Monitoring (CEMs) data on a one-hour basis, of sulfur dioxide concentration in units of ppmvd, corrected to zero percent oxygen, and oxygen concentration in units of percent oxygen, before being discharged to the atmosphere from August 1, 2010 until December 31, 2010. The sulfur dioxide concentration data shall also include 12-hour rolling averages (rolled hourly).
57. Provide, in electronic format (preferably in Excel), the sulfur recovery plant incinerator stack Continuous Emission Monitoring (CEMs) data on a one-hour basis, of sulfur dioxide concentration in units of ppmvd, corrected to zero percent oxygen and oxygen concentration in units of percent oxygen, before being discharged to the atmosphere from April 1, 2013 until June 30, 2013. The sulfur dioxide and oxygen concentration data shall also include 12-hour rolling averages (rolled hourly).
58. Provide, in electronic format (preferably in Excel), the sulfur recovery plant applicable emission limit of sulfur dioxide emissions from the SRP incinerator stack, pursuant to equation 1 of §60.102a(f)(iii), and the corresponding oxygen concentration used in the equation, on a one-hour basis, from April 1, 2013 to June 30, 2013. The applicable emission limit data shall also include 12-hour rolling averages (rolled hourly). Provide a narrative description of how the oxygen concentration data used in equation 1 of §60.102a(f)(iii) is monitored (e.g., the location of the oxygen monitor, the type of monitor used).
59. Provide, in electronic format (preferably in Excel), the sulfur recovery plant incinerator stack Continuous Emission Monitoring data, on a one-hour basis, of sulfur dioxide emission, in units of lbs/hour from April 1, 2013 until June 30, 2013, and provide an example calculation of the lbs/hour emission calculations used to develop the data.
60. Provide, in electronic format (preferably in Excel), the magnitude of the flow rate of the gas stream discharged from the sulfur recovery plant incinerator stack, on a one-hour basis, from April 1, 2013 until June 30, 2013. Provide a narrative explanation regarding the flow monitors;
 - a. The number of flow monitors used,
 - b. The location of the flow monitors,
 - c. The type, manufacturer, and model numbers.

61. Provide a copy of all of the root cause analysis reports developed for the sulfur recovery plant pursuant to §60.103a and permit C-9309 dated March 15, 2011, from April 1, 2013 until June 30, 2013.
62. Provide, in electronic format (preferably in Excel), the sulfur recovery plant incinerator stack Continuous Emission Monitoring (CEMs) data on a one-hour basis, of sulfur dioxide concentration in units of ppmvd, corrected to zero percent oxygen, and oxygen concentration in units of percent oxygen, before being discharged to the atmosphere from April 1, 2014 until May 31, 2014. The sulfur dioxide concentration data shall also include 12-hour rolling averages (rolled hourly).
63. Provide, in electronic format (preferably in Excel), the sulfur recovery plant applicable emission limit of sulfur dioxide emissions from the SRP incinerator stack, pursuant to equation 1 of §60.102a(f)(iii), and the corresponding oxygen concentration used in the equation, on a one-hour basis, from April 1, 2014 to May 31, 2014. The applicable emission limit data shall also include 12-hour rolling averages (rolled hourly).
64. From March 29, 2013 through April 21, 2013, provide the following:
 - a. a description of the repairs to the sulfur incinerator;
 - b. the date and time that the repairs on the sulfur incinerator were completed;
 - c. the name of the refinery personnel or the contractor that performed the repairs.
65. Provide a narrative description of the root cause(s) and all contributing causes of any malfunctions of the FCCU and/or causes of any excess FCCU catalyst to be emitted to the atmosphere from April 23, 2014 until April 26, 2014.